

CLAIMS

1. A method of estimating channel coefficients (h) in a multi carrier transmit diversity system operating in accordance with a block-coding scheme, comprising:
 - a) determining from a receive signal (\mathbf{Y}) for each channel estimated channel coefficients (\hat{h}) comprising artificially introduced interference components (I) from adjacent channels;
 - b) deriving estimates (\hat{I}) for the interference components (I); and
 - c) determining interference-compensated estimates (\hat{h}_{F+IC}) for the channel coefficients (h) on the basis of the estimates (\hat{I}) for the interference terms (I).
2. The method of claim 1, wherein the estimated channel coefficients (h) are determined based on the assumption that the channels do not change during an amount of instants (z) required to transmit two or more data symbols.
3. The method according to claim 2, wherein, based on the assumption, the estimated channel coefficients (\hat{h}) are determined such that the estimated channel coefficients (\hat{h}) of two or more adjacent instants (z) are identical.
4. The method of one of claims 1 to 3, wherein determining the estimated channel coefficients (\hat{h}) comprises multiplying a known data matrix (\mathbf{Z}) comprised within the receive signal (\mathbf{Y}) with the Hermitian (\mathbf{Z}^H) of the known data matrix (\mathbf{Z}).
5. The method of one of claims 1 to 4, wherein the step of determining estimates (\hat{I}) for the interference components (I) of a specific channel comprises exploiting a correlation among a plurality of channel coefficients (\hat{h}) estimated for the specific channel.
6. The method according to claim 5, wherein the estimated channel coefficients (\hat{h}) are processed such that for the specific channel an identity of estimated channel coefficients (\hat{h}) which belong to adjacent instants (z) is broken.
7. The method of claim 6, wherein processing of the estimated channel coefficients (\hat{h}) is effected by interpolation or filtering.

8. The method of one of claims 6 or 7, wherein the estimates (\hat{I}) for the interference components (I) are derived from the processed channel coefficients (\hat{h}_F).
9. The method of one of claims 6 to 8 wherein the interference-compensated estimates (\hat{h}_{F+IC}) for the channel coefficients (h) are derived from the processed channel coefficients (\hat{h}_F).
10. The method of claim 9, wherein determining the interference-compensated estimates (\hat{h}_{F+IC}) comprises subtracting the estimates (\hat{I}) for the interference components (I) from the processed channel coefficients (\hat{h}_F).
11. The method of one of claims 1 to 10, wherein the block-coding is effected by space-time block-coding (STBC) or space-frequency block-coding (SFBC).
12. The method of claim 11, further comprising switching between space-time block-coding (STBC) and space-frequency block-coding (SFBC) in dependence on one or more transmission constraints.
13. A computer program product comprising program code portions for performing the steps of one of claims 1 to 12 when the product is run on a computer.
14. The computer program product of claim 13 stored on a computer readable recording medium.
15. An estimating circuit (44) for estimating channel coefficients (h) in a multi carrier transmit diversity system operating in accordance with a block-coding scheme, comprising:
 - a) a unit (48) for determining from a receive signal (Y) for each channel estimated channel coefficients (\hat{h}) comprising artificially introduced interference components (I) from adjacent channels; and
 - b) a unit (52) for deriving estimates (\hat{I}) for the interference components (I) and for determining interference-compensated estimates (\hat{h}_{F+IC}) for the channel coefficients (h) on the basis of the estimates (\hat{I}) for the interference components (I).

16. The estimating circuit according to claim 15, further comprising a processing unit (50) for processing a plurality of channel coefficients (\hat{h}) estimated for a specific channel utilizing a correlation among the estimated channel coefficients (\hat{h}).

5 17. A transceiver of a wireless communication system comprising a receiver stage (40) with an estimating circuit (44) according to claim 15 or 16.